

# F.T.I.R SPECTROMETER



| Make         | Model       |
|--------------|-------------|
| Perkin Elmer | Spectrum GX |

## Brief Description:

**FT-IR Spectrometer Perkin Elmer Spectrum GX Range:** 30-15600  $\text{cm}^{-1}$ ; ATR accessory for reflectance measurement; IR Quant software; Spectrum search software.

## Specifications:

- ❖ Sample: Solid, Liquid or Gas
- ❖ Operating Mode:- NIR and MIR
- ❖ Scan Range: 15600 to 30  $\text{cm}^{-1}$
- ❖ Optical system: Source NIR: 15,200 – 1,200  $\text{cm}^{-1}$

Beam splitter KBr: 7,800 - 370  $\text{cm}^{-1}$

Detector MIRTGS: 10,000 - 220  $\text{cm}^{-1}$

Optimum Range: 7,800 - 1,200  $\text{cm}^{-1}$

- ❖ OPD Velocity: 0.20 cm/s
- ❖ Interferogram Direction: Bi-Direction
- ❖ Scan Time: 20 scan/second
- ❖ Resolution:  $0.15\text{cm}^{-1}$
- ❖ Single Beam/Ratio: Single
- ❖ Detector: MIRTGS

Applications:

- ❖ It is used for qualitative and quantitative analysis for organic and inorganic samples.
- ❖ Solids, Liquids, Gases
- ❖ Identification of polymers, Plastics, Resins, Oils, Paints, laminates
- ❖ Matching spectrum of unknown compound with reference spectrum (fingerprint)
- ❖ Helps to find out different isotropic compounds
- ❖ Used for comparative study of batch samples in process control
- ❖ Used in various fields like, Chemicals, Polymers, Pharmaceuticals, Petrochemical, Forensic Science and many other sectors
- ❖ Analysis of formulations (cleaning solutions, solvents)
- ❖ Identification of Functional groups in unknown substances
- ❖ It is used in Food and agricultural